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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,609	09/18/2003	Chien-Hua Chen	10011959-5	1367

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

OEN, WILLIAM L

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.D.

Office Action Summary

Application No.

10/666,609

Applicant(s)

CHEN, CHIEN-HUA

Examiner

William L. Oen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) 8-45, 50-52, 55 and 56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 46-49, 53, 54 and 57-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7, 46-49, 53, 54 and 57-63 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shkedi (U.S. Patent No. 4,689,999) in view of Provenzano et al. (U.S. Patent No. 5,381,299).

Shkedi explicitly teaches, for example in Figures 1 and 2 and in columns 4-8, all of the essential features of the instant invention including a capacitive type pressure sensor with a first membrane 14 that flexes in response to pressure; a reference cavity covered by the first membrane, the reference cavity 132 containing a vacuum (see, e.g., col. 7 lines 42-50) and a second membrane (16 and/or 18) adjacent to said first membrane, wherein the reference cavity and the second membrane are disposed on opposite sides of the first membrane 14, the first and second membranes form a capacitor having a capacitance that varies in accordance with the flexing of the first

membrane and the pressure.

It is noted that Shkedi lacks an explicit teaching of a curved membrane per se. Provenzano et al, in the same field of endeavor as Shkedi, explicitly teaches a capacitive type pressure sensor arrangement wherein membrane 104 is curved. Shkedi also teaches the claimed arrangement of this membrane with respect to the reference vacuum chamber 132 (see, e.g., col. 7, lines 42-50).

In view of this teaching by Provenzano et al, and because it would have been a simple and expedient modification at the time of the invention, it would have been obvious to one having ordinary skill in the art at the time of the invention to have shaped either the first or second membrane of Shkedi to have a curved shape, if desired.

To have formed the first and second membranes of Shkedi to be bonded to substrates is considered to have been a mere matter of obvious design choice clearly within the purview of one having ordinary skill in the art at the time of the invention, if desired.

Response to Arguments

Applicant's arguments filed 01/31/2005 have been fully considered but they are not persuasive.

The thrust of Applicant's arguments is that the applied art (Shkedi and Provenzano) fail to teach or suggest a second membrane that is *not* in contact with a vacuum as claimed, and that that the applied art also fails to teach or suggest a membrane that is formed with a curvature with respect to another membrane, as

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claimed. Neither of these two arguments is persuasive to render the claimed invention non-obvious over the Prior Art taken as a whole. The negative limitation "*not* in contact with a vacuum" is clearly suggested by the *combination* of Shkedi and Provenzano and the Prior Art taken as a whole because it would have been obvious to form the second membrane of Shkedi to NOT be in contact with the vacuum, if desired. That all diaphragms and membranes are formed with some inherent curvature (even if the curvature possesses a very large radius of curvature) is axiomatic.

Finally, it is noted that Applicant has not posited arguments for the patentability of claim 57 sufficient to overcome the 103 obviousness type rejection applied thereto.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Oen whose telephone number is 571-272-2186. The examiner can normally be reached on 10:30 am - 9:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William L Oen
Primary Examiner
Art Unit 2855

WL Oen
March 4, 2005